

### **AMENDMENTS TO THE CLAIMS**

Please amend the claims as indicated below. The language being added is underlined ("\_\_\_") and the language being deleted contains either a strikethrough ("—") or is enclosed by double brackets ("[[ ]]").

#### **LISTING OF CLAIMS**

1. (Currently Amended) An ~~semiconductor and logic~~ asynchronous digital subscriber line (ADSL) system comprising:

a central office (CO) operator configured to perform spectrum management,

wherein the CO operator is further configured to provide a power spectral density (PSD) mask for spectral shaping of an ~~asynchronous digital subscriber line (ADSL[[ ]])~~ overlap spectrum transmission over a plain old telephone system (POTS), the PSD mask represented at least in part by a plurality of break points, the plurality of break points including:  $-97.5 \pm 10\%$  decibel-milliwatts per hertz (dBm/Hz) at  $0 \pm 10\%$  kilohertz (kHz);  $-97.5 \pm 10\%$  dBm/Hz at  $4 \pm 10\%$  kHz;  $-92.5 \pm 10\%$  dBm/Hz at  $4 \pm 10\%$  kHz;  $-36.5 \pm 10\%$  dBm/Hz at  $25 \pm 10\%$  kHz;  $-36.5 \pm 10\%$  dBm/Hz at  $1104 \pm 10\%$  kHz;  $-46.5 \pm 10\%$  dBm/Hz at  $2208 \pm 10\%$  kHz;  $-101.5 \pm 10\%$  dBm/Hz at  $3925 \pm 10\%$  kHz;  $-101.5 \pm 10\%$  dBm/Hz at  $8500 \pm 10\%$  kHz;  $-103.5 \pm 10\%$  dBm/Hz at  $8500 \pm 10\%$  kHz; and  $-103.5 \pm 10\%$  dBm/Hz at  $11040 \pm 10\%$  kHz.

2. (Currently Amended) ~~An semiconductor and logic~~ asynchronous digital subscriber line (ADSL) system comprising:

a central office (CO) operator configured to perform spectrum management,  
wherein the CO operator is further configured to provide a power spectral density (PSD) mask for spectral shaping of an ~~asynchronous digital subscriber line (ADSL[[ ]])~~ overlap spectrum transmission over a plain old telephone system (POTS), the PSD mask represented at least in part by a plurality of break points, the plurality of break points including:  $-97.5 \pm 10\%$  decibel-milliwatts per hertz (dBm/Hz) at  $0 \pm 10\%$  kilohertz (kHz);  $-97.5 \pm 10\%$  dBm/Hz at  $4 \pm 10\%$  kHz;  $-72.5 \pm 10\%$  dBm/Hz at  $80 \pm 10\%$  kHz;  $-36.5 \pm 10\%$  dBm/Hz at  $138 \pm 10\%$  kHz;  $-36.5 \pm 10\%$  dBm/Hz at  $1104 \pm 10\%$  kHz;  $-46.5 \pm 10\%$  dBm/Hz at  $2208 \pm 10\%$  kHz;  $-101.5 \pm 10\%$  dBm/Hz at  $3925 \pm 10\%$  kHz;  $-101.5 \pm 10\%$  dBm/Hz at  $8500 \pm 10\%$  kHz;  $-103.5 \pm 10\%$  dBm/Hz at  $8500 \pm 10\%$  kHz; and  $-103.5 \pm 10\%$  dBm/Hz at  $11040 \pm 10\%$  kHz.

3. (Currently Amended) ~~An semiconductor and logic~~ asynchronous digital subscriber line (ADSL) system comprising:

a central office (CO) operator configured to perform spectrum management,  
wherein the CO operator is further configured to provide a power spectral density (PSD) mask for spectral shaping of an ~~asynchronous digital subscriber line (ADSL[[ ]])~~ overlap spectrum transmission over a plain old telephone system (POTS), the PSD mask represented at least in part by a plurality of break points, the plurality of break points including:  $-97.5 \pm 10\%$  decibel-milliwatts per hertz (dBm/Hz) at  $0 \pm 10\%$  kilohertz (kHz);  $-97.5 \pm 10\%$  dBm/Hz at  $4 \pm 10\%$  kHz;  $-92.5 \pm 10\%$  dBm/Hz at  $4 \pm 10\%$  kHz;  $-56.5 \pm 10\%$

dBm/Hz at  $25 \pm 10\%$  kHz;  $-56.5 \pm 10\%$  dBm/Hz at  $1104 \pm 10\%$  kHz;  $-46.5 \pm 10\%$  dBm/Hz at  $2208 \pm 10\%$  kHz;  $-101.5 \pm 10\%$  dBm/Hz at  $3925 \pm 10\%$  kHz;  $-101.5 \pm 10\%$  dBm/Hz at  $8500 \pm 10\%$  kHz;  $-103.5 \pm 10\%$  dBm/Hz at  $8500 \pm 10\%$  kHz; and  $-103.5 \pm 10\%$  dBm/Hz at  $11040 \pm 10\%$  kHz.

4. (Currently Amended) ~~An semiconductor and logic~~ asynchronous digital subscriber line (ADSL) system comprising:

a central office (CO) operator configured to perform spectrum management,  
wherein the CO operator is further configured to provide a power spectral density (PSD) mask for spectral shaping of an ~~asynchronous digital subscriber line (ADSL[[ ]])~~ overlap spectrum transmission over a plain old telephone system (POTS), the PSD mask represented at least in part by a plurality of break points, the plurality of break points including:  $-97.5 \pm 10\%$  decibel-milliwatts per hertz (dBm/Hz) at  $0 \pm 10\%$  kilohertz (kHz);  $-97.5 \pm 10\%$  dBm/Hz at  $4 \pm 10\%$  kHz;  $-92.5 \pm 10\%$  dBm/Hz at 80 kHz;  $-56.5 \pm 10\%$  dBm/Hz at  $138 \pm 10\%$  kHz;  $-56.5 \pm 10\%$  dBm/Hz at  $1104 \pm 10\%$  kHz;  $-46.5 \pm 10\%$  dBm/Hz at  $2208 \pm 10\%$  kHz;  $-101.5 \pm 10\%$  dBm/Hz at  $3925 \pm 10\%$  kHz;  $-101.5 \pm 10\%$  dBm/Hz at  $8500 \pm 10\%$  kHz;  $-103.5 \pm 10\%$  dBm/Hz at  $8500 \pm 10\%$  kHz; and  $-103.5 \pm 10\%$  dBm/Hz at  $11040 \pm 10\%$  kHz.

5. (Currently Amended) ~~An semiconductor and logic~~ asynchronous digital subscriber line (ADSL) system comprising:

a central office (CO) operator configured to perform spectrum management,  
wherein the CO operator is further configured to provide a power spectral density (PSD)

mask for spectral shaping of an ~~asynchronous digital subscriber line (ADSL[[ ]])~~ overlap spectrum over an integrated digital services network (ISDN), the PSD mask represented at least in part by a plurality of break points, the plurality of break points including:  $-90 \pm 10\%$  decibel-milliwatts per hertz (dBm/Hz) at  $0 \pm 10\%$  kilohertz (kHz);  $-90 \pm 10\%$  dBm/Hz at  $93.1 \pm 10\%$  kHz;  $-62 \pm 10\%$  dBm/Hz at  $209 \pm 10\%$  kHz;  $-36.5 \pm 10\%$  dBm/Hz at  $255 \pm 10\%$  kHz;  $-36.5 \pm 10\%$  dBm/Hz at  $1104 \pm 10\%$  kHz;  $-46.5 \pm 10\%$  dBm/Hz at  $2208 \pm 10\%$  kHz;  $-101.5 \pm 10\%$  dBm/Hz at  $3925 \pm 10\%$  kHz;  $-101.5 \pm 10\%$  dBm/Hz at  $8500 \pm 10\%$  kHz;  $-103.5 \pm 10\%$  dBm/Hz at  $8500 \pm 10\%$  kHz; and  $-103.5 \pm 10\%$  dBm/Hz at  $11040 \pm 10\%$  kHz.

6. (Currently Amended) ~~An semiconductor and logic~~ asynchronous digital subscriber line (ADSL) system comprising:

a central office (CO) operator configured to perform spectrum management,  
wherein the CO operator is further configured to provide a power spectral density (PSD) mask for spectral shaping of an ~~asynchronous digital subscriber line (ADSL[[ ]])~~ overlap spectrum over an integrated digital services network (ISDN), the PSD mask represented at least in part by a plurality of break points, the plurality of break points including:  $-90 \pm 10\%$  decibel-milliwatts per hertz (dBm/Hz) at  $0 \pm 10\%$  kilohertz (kHz);  $-90 \pm 10\%$  dBm/Hz at  $93.1 \pm 10\%$  kHz;  $-62 \pm 10\%$  dBm/Hz at  $209 \pm 10\%$  kHz;  $-56.5 \pm 10\%$  dBm/Hz at  $255 \pm 10\%$  kHz;  $-56.5 \pm 10\%$  dBm/Hz at  $1104 \pm 10\%$  kHz;  $-46.5 \pm 10\%$  dBm/Hz at  $2208 \pm 10\%$  kHz;  $-101.5 \pm 10\%$  dBm/Hz at  $3925 \pm 10\%$  kHz;  $-101.5 \pm 10\%$  dBm/Hz at  $8500 \pm 10\%$  kHz;  $-103.5 \pm 10\%$  dBm/Hz at  $8500 \pm 10\%$  kHz; and  $-103.5 \pm 10\%$  dBm/Hz at  $11040 \pm 10\%$  kHz.

7. (Currently Amended) ~~An semiconductor and logic~~ asynchronous digital subscriber line (ADSL) system comprising:

a central office (CO) operator configured to perform spectrum management,  
wherein the CO operator is further configured to provide a power spectral density (PSD) mask for spectral shaping of an ~~asynchronous digital subscriber line (ADSL[[]])~~ overlap spectrum transmission over a plain old telephone system (POTS), the PSD mask represented at least in part by a plurality of break points, the plurality of break points including:  $-97.5 \pm 5\%$  decibel-milliwatts per hertz (dBm/Hz) at  $0 \pm 5\%$  kilohertz (kHz);  $-97.5 \pm 5\%$  dBm/Hz at  $4 \pm 5\%$  kHz;  $-92.5 \pm 5\%$  dBm/Hz at  $4 \pm 5\%$  kHz;  $-36.5 \pm 5\%$  dBm/Hz at  $25 \pm 5\%$  kHz;  $-36.5 \pm 5\%$  dBm/Hz at  $1104 \pm 5\%$  kHz;  $-46.5 \pm 5\%$  dBm/Hz at  $2208 \pm 5\%$  kHz;  $-101.5 \pm 5\%$  dBm/Hz at  $3925 \pm 5\%$  kHz;  $-101.5 \pm 5\%$  dBm/Hz at  $8500 \pm 5\%$  kHz;  $-103.5 \pm 5\%$  dBm/Hz at  $8500 \pm 5\%$  kHz; and  $-103.5 \pm 5\%$  dBm/Hz at  $11040 \pm 5\%$  kHz.

8. (Currently Amended) ~~An semiconductor and logic~~ asynchronous digital subscriber line (ADSL) system comprising:

a central office (CO) operator configured to perform spectrum management,  
wherein the CO operator is further configured to provide a power spectral density (PSD) mask for spectral shaping of an ~~asynchronous digital subscriber line (ADSL[[]])~~ non-overlap spectrum over a plain old telephone system (POTS), the PSD mask represented at least in part by a plurality of break points, the plurality of break points including:  $-97.5 \pm 5\%$  decibel-milliwatts per hertz (dBm/Hz) at  $0 \pm 5\%$  kilohertz (kHz);  $-97.5 \pm 5\%$  dBm/Hz at  $4 \pm 5\%$  kHz;  $-72.5 \pm 5\%$  dBm/Hz at  $80 \pm 5\%$  kHz;  $-36.5 \pm 5\%$

dBm/Hz at  $138 \pm 5\%$  kHz;  $-36.5 \pm 5\%$  dBm/Hz at  $1104 \pm 5\%$  kHz;  $-46.5 \pm 5\%$  dBm/Hz at  $2208 \pm 5\%$  kHz;  $-101.5 \pm 5\%$  dBm/Hz at  $3925 \pm 5\%$  kHz;  $-101.5 \pm 5\%$  dBm/Hz at  $8500 \pm 5\%$  kHz;  $-103.5 \pm 5\%$  dBm/Hz at  $8500 \pm 5\%$  kHz; and  $-103.5 \pm 5\%$  dBm/Hz at  $11040 \pm 5\%$  kHz.

9. (Currently Amended) ~~An semiconductor and logic~~ asynchronous digital subscriber line (ADSL) system comprising:

a central office (CO) operator configured to perform spectrum management, wherein the CO operator is further configured to provide a power spectral density (PSD) mask for spectral shaping of an ~~asynchronous digital subscriber line (ADSL[[]])~~ overlap spectrum over a plain old telephone system (POTS), the PSD mask represented at least in part by a plurality of break points, the plurality of break points including:  $-97.5 \pm 5\%$  decibel-milliwatts per hertz (dBm/Hz) at  $0 \pm 5\%$  kilohertz (kHz);  $-97.5 \pm 5\%$  dBm/Hz at  $4 \pm 5\%$  kHz;  $-92.5 \pm 5\%$  dBm/Hz at  $4 \pm 5\%$  kHz;  $-56.5 \pm 5\%$  dBm/Hz at  $25 \pm 5\%$  kHz;  $-56.5 \pm 5\%$  dBm/Hz at  $1104 \pm 5\%$  kHz;  $-46.5 \pm 5\%$  dBm/Hz at  $2208 \pm 5\%$  kHz;  $-101.5 \pm 5\%$  dBm/Hz at  $3925 \pm 5\%$  kHz;  $-101.5 \pm 5\%$  dBm/Hz at  $8500 \pm 5\%$  kHz;  $-103.5 \pm 5\%$  dBm/Hz at  $8500 \pm 5\%$  kHz; and  $-103.5 \pm 5\%$  dBm/Hz at  $11040 \pm 5\%$  kHz.

10. (Currently Amended) ~~An semiconductor and logic~~ asynchronous digital subscriber line (ADSL) system comprising:

a central office (CO) operator configured to perform spectrum management, wherein the CO operator is further configured to provide a power spectral density

(PSD) mask for spectral shaping of an ~~asynchronous digital subscriber line (ADSL[[ ]])~~ non-overlap spectrum over a plain old telephone system (POTS), the PSD mask represented at least in part by a plurality of break points, the plurality of break points including:  $-97.5 \pm 5\%$  decibel-milliwatts per hertz (dBm/Hz) at  $0 \pm 5\%$  kilohertz (kHz);  $-97.5 \pm 5\%$  dBm/Hz at  $4 \pm 5\%$  kHz;  $-92.5 \pm 5\%$  dBm/Hz at  $80 \pm 5\%$  kHz;  $-56.5 \pm 5\%$  dBm/Hz at  $138 \pm 5\%$  kHz;  $-56.5 \pm 5\%$  dBm/Hz at  $1104 \pm 5\%$  kHz;  $-46.5 \pm 5\%$  dBm/Hz at  $2208 \pm 5\%$  kHz;  $-101.5 \pm 5\%$  dBm/Hz at  $3925 \pm 5\%$  kHz;  $-101.5 \pm 5\%$  dBm/Hz at  $8500 \pm 5\%$  kHz;  $-103.5 \pm 5\%$  dBm/Hz at  $8500 \pm 5\%$  kHz; and  $-103.5 \pm 5\%$  dBm/Hz at  $11040 \pm 5\%$  kHz.

11. (Currently Amended) ~~An semiconductor and logic asynchronous digital subscriber line (ADSL) system~~ comprising:

a central office (CO) operator configured to perform spectrum management,  
wherein the CO operator is further configured to provide a power spectral density (PSD) mask for spectral shaping of an ~~asynchronous digital subscriber line (ADSL[[ ]])~~ overlap spectrum over an integrated digital services network (ISDN), the PSD mask represented at least in part by a plurality of break points, the plurality of break points including:  $-90 \pm 5\%$  decibel-milliwatts per hertz (dBm/Hz) at  $0 \pm 5\%$  kilohertz (kHz);  $-90 \pm 5\%$  dBm/Hz at  $93.1 \pm 5\%$ , kHz;  $-62 \pm 5\%$  dBm/Hz at  $209 \pm 5\%$  kHz;  $-36.5 \pm 5\%$  dBm/Hz at  $255 \pm 5\%$  kHz;  $-36.5 \pm 5\%$  dBm/Hz at  $1104 \pm 5\%$  kHz;  $-46.5 \pm 5\%$  dBm/Hz at  $2208 \pm 5\%$  kHz;  $-101.5 \pm 5\%$  dBm/Hz at  $3925 \pm 5\%$  kHz;  $-101.5 \pm 5\%$  dBm/Hz at  $8500 \pm 5\%$  kHz;  $-103.5 \pm 5\%$  dBm/Hz at  $8500 \pm 5\%$  kHz; and  $-103.5 \pm 5\%$  dBm/Hz at  $11040 \pm 5\%$  kHz.

12. (Currently Amended) ~~An semiconductor and logic~~ asynchronous digital subscriber line (ADSL) system comprising:

a central office (CO) operator configured to perform spectrum management,  
wherein the CO operator is further configured to provide a power spectral density (PSD) mask for spectral shaping of an ~~asynchronous digital subscriber line (ADSL[[ ]])~~ overlap spectrum over an integrated digital services network (ISDN), the PSD mask represented at least in part by a plurality of break points, the plurality of break points including:  $-90 \pm 5\%$  decibel-milliwatts per hertz (dBm/Hz) at  $0 \pm 5\%$  kilohertz (kHz);  $-90 \pm 5\%$  dBm/Hz at  $93.1 \pm 5\%$  kHz;  $-62 \pm 5\%$  dBm/Hz at  $209 \pm 5\%$  kHz;  $-56.5 \pm 5\%$  dBm/Hz at  $255 \pm 5\%$  kHz;  $-56.5 \pm 5\%$  dBm/Hz at  $1104 \pm 5\%$  kHz;  $-46.5 \pm 5\%$  dBm/Hz at  $2208 \pm 5\%$  kHz;  $-101.5 \pm 5\%$  dBm/Hz at  $3925 \pm 5\%$  kHz;  $-101.5 \pm 5\%$  dBm/Hz at  $8500 \pm 5\%$  kHz;  $-103.5 \pm 5\%$  dBm/Hz at  $8500 \pm 5\%$  kHz; and  $-103.5 \pm 5\%$  dBm/Hz at  $11040 \pm 5\%$  kHz.